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FLOOD INSURANCE STUDY



**TOWN OF CORINTH,
TEXAS**
DENTON COUNTY

ORIGINAL



JUNE 3, 1986



Federal Emergency Management Agency

COMMUNITY NUMBER - 481143

BES 227 11/11/86

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FLOOD INSURANCE STUDY
TOWN OF CORINTH, TEXAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the Town of Corinth, Denton County, Texas, and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates and assist the community in their efforts to promote sound flood plain management. Minimum flood plain management requirements for participation in the National Flood Insurance Program are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, flood plain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the state (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were prepared by the Fort Worth District of the U. S. Army Corps of Engineers for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreement No. EMW-E-0941. This work was completed in February 1984.

1.3 Coordination

On August 17, 1982, the community boundary map was obtained and streams requiring detailed study were identified at an initial Consultation and Coordination Officer's (CCO) meeting attended by representatives of FEMA, the Town of Corinth, and the U. S. Army Corps of Engineers (COE - the study contractor). On July 29, 1985, the results of the study were reviewed at a final CCO meeting held with representatives of FEMA and the town.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the incorporated area of the Town of Corinth, Denton County, Texas. The area of study is shown on the Vicinity Map (Figure 1).

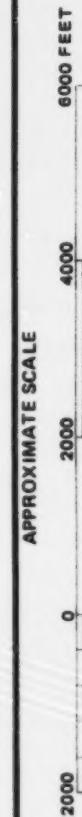
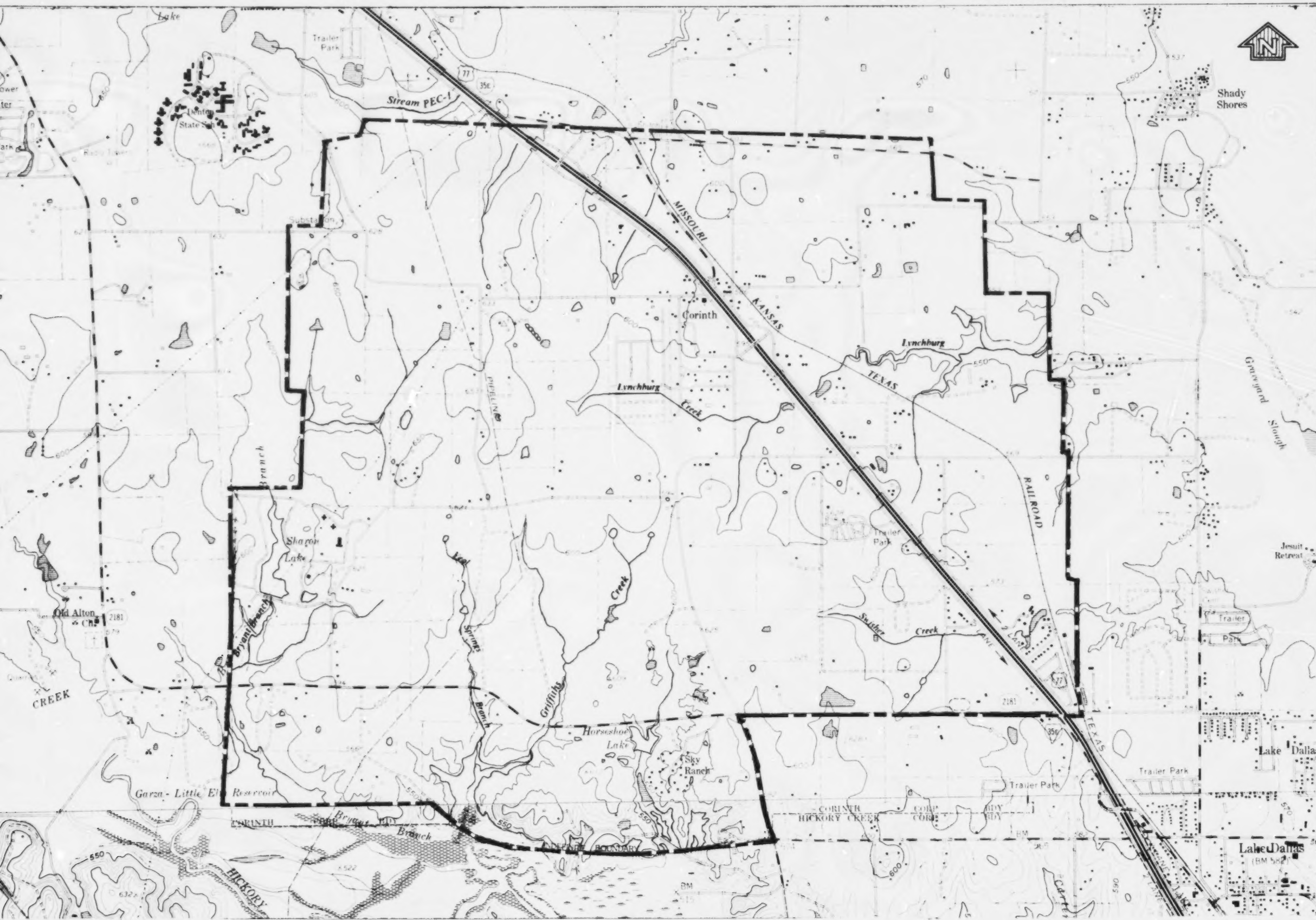
The following streams were studied by detailed methods: the entire length of Bryant Branch within the corporate limits; Griffiths Creek from its confluence with Veal Springs Branch to a point approximately 120 feet downstream of the confluence of East and West Branches Griffiths Creek; Lynchburg Creek from the downstream corporate limits to a point approximately 100 feet upstream of Shady Shores Road; Stream PEC-1 affecting the community; Swisher Creek from the downstream corporate limits to a point approximately 70 feet upstream of South Garrison Drive; and Veal Springs Branch from the downstream corporate limits to a point approximately 140 feet upstream of FM 2181. Flooding affecting the community from Lewisville Lake was also studied by detailed methods. The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development and proposed construction through February 1989.

Acme Creek, East Griffiths Creek, West Griffiths Creek, South Lynchburg Creek, Horseshoe Lake, Lea Creek, Smart Creek, several unnamed tributaries, and the remaining portions of Griffiths Creek, Lynchburg Creek, Swisher Creek, Veal Springs Branch were studied by approximate methods. Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon by, FEMA and the Town of Corinth.

2.2 Community Description

The Town of Corinth is located in the southeastern portion of Denton County in north-central Texas, approximately 26 miles northwest of the City of Dallas and approximately 1 mile west of the main part of Lewisville Lake. It is bordered by the City of Lake Dallas to the east, the City of Shady Shores to the east and north, the City of Denton to the north and west, and unincorporated areas of Denton County to the south and north. The total land area contained within the corporate limits of Corinth is 7.9 square miles. According to the U. S. Bureau of the Census, the population of the town was 1,264 in 1980 (References 1 and 2).

Bryant Branch flows from north to south in the southwestern portion of Corinth. It is approximately 3.9 miles long, with approximately 1.4 miles within the corporate limits. The drainage area of Bryant Branch is approximately 2.4 square miles.



VICINITY MAP

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWN OF CORINTH, TX
(DENTON CO.)

FIGURE 1

Griffiths Creek flows north to south into Veal Springs Branch in the south-central section of the town. It is approximately 0.7 mile long, with a drainage area of approximately 0.8 square mile.

Lynchburg Creek flows from west to east into Lewisville Lake in the northeastern portion of the town. It is approximately 4.9 miles long and has a drainage area of approximately 3.7 square miles. Approximately 1.7 miles of its length are within the town.

Stream PEC-1 flows from west to east into Pecan Creek just north of the northern corporate limits. It is approximately 4.1 miles long, with a drainage area of approximately 4.1 square miles. Approximately 0.3 mile of Stream PEC-1 affects Corinth.

Veal Springs Branch flows from north to south in the south-central portion of the town. It is approximately 2.3 miles long, with approximately 0.7 mile within the corporate limits. The drainage area of Veal Springs Branch is approximately 1.4 square miles.

Climatological data at Fort Worth are considered indicative of the conditions prevailing in the region. The average annual rainfall was 32.30 inches for the last 10-year period. The maximum and minimum annual rainfall occurring during the last 57 years was 51.03 inches in 1932 and 17.91 inches in 1921, respectively. The mean relative humidity is 65 percent, and the average annual temperature is 65.8 degrees Fahrenheit (Reference 3).

2.3 Principal Flood Problems

Generally, major floods experienced in the vicinity are produced by heavy rainfall from frontal type storms which occur in the spring and summer months. Major flooding can be produced by the intense rainfall usually associated with localized thunderstorms. These thunderstorms can occur at any time of the year but are more prevalent in the spring and summer months.

2.4 Flood Protection Measures

Sharon Lake Dam and several unnamed dams are located within the corporate limits of Corinth. Sharon Lake Dam provides a very minimal amount of flood protection.

Non-structural measures of flood protection in the form of land-use regulations and ordinances are being used to aid in the prevention of future flood damage.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for flood plain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (1 percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency and peak elevation-frequency relationships for the flooding sources studied in detail affecting the community.

The computer program NUDALLAS was used in developing the hydrology (Reference 4). The watershed was divided into sub-areas, and synthetic unit and flood hydrographs were developed at selected locations. Technical Paper No. 40 and Technical Memorandum NWS Hydro-35 were used in developing the 10-, 50-, and 100-year frequency storms (References 5 and 6). The 500-year storm was based on extrapolated data. Peak discharge-frequency values were computed for selected locations. Routing of the flood hydrographs through each sub-basin was accomplished using a modified Puls reservoir routing. The COE HEC-2 step-backwater model provided the elevation-discharge-storage relationships for the streams studied by detailed methods (Reference 7).

A summary of drainage area-peak discharge relationships for the streams studied by detailed methods is shown in Table 1, "Summary of Discharges." Discharges for Bryant Branch and Griffiths Creek decrease going downstream due to the effects of storage.

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs)			
		10-YEAR	50-YEAR	100-YEAR	500-YEAR
BRYANT BRANCH					
Approximately 200 feet downstream from FM 2181	2.21	1,450	1,900	2,150	3,400
At FM 2181	1.87	1,000	1,300	1,450	2,950
At Sharon Lake Dam	1.23	300	600	1,350	2,950
At Camp Lake Sharon Road	1.02	1,450	2,000	2,250	2,700
GRIFFITHS CREEK					
At its confluence with Veal Springs Branch	0.76	850	1,100	1,200	1,600
At FM 2181	0.56	1,000	1,350	1,500	1,850
LYNCHBURG CREEK					
At South Shady Shores Road	3.65	3,250	4,500	5,100	6,500
Approximately 250 feet upstream of South Shady Shores Road	2.33	1,750	2,450	2,800	3,750
Approximately 50 feet downstream of the confluence of Stream LB-1	1.86	1,400	2,000	2,300	3,250
STREAM PEC-1					
At the dam upstream of Interstate 35E	1.75	1,500	2,650	3,000	3,700
SWISHER CREEK					
At South Shady Shores Road	1.12	1,550	2,200	2,500	3,200
Approximately 140 feet upstream from the Missouri-Kansas-Texas Railroad	0.67	900	1,400	1,700	2,100
VEAL SPRINGS BRANCH					
Approximately 50 feet downstream of the confluence of Griffiths Creek	1.32	1,600	2,150	2,400	2,950
Approximately 50 feet upstream of the confluence of Griffiths Creek	0.55	800	1,100	1,200	1,550
At FM 2181	0.36	550	750	800	1,000

Elevations for Lewisville Lake were obtained from the Flood Insurance Study for Denton County (Reference 8). The analysis used in the Denton County study is as follows. When Ray Roberts Lake Reservoir is completed, the conservation pool at Lewisville Lake will be raised from 515 feet to 522 feet. Some flood control storage will be reallocated from Lewisville Lake to Ray Roberts Lake. A pool elevation-frequency curve for Lewisville Lake, with Ray Roberts Lake in place, was developed based on a period of record analysis using daily flows from 1940 to 1969. Yields of 139 cubic feet per second (cfs) and 110 cfs were used for Ray Roberts Lake and Lewisville Lake, respectively. The Lewisville Lake pool elevation-frequency and discharge-frequencies below Lewisville Lake are approximately the same as those for existing conditions, except that the 10-year pool elevation is 530.5 feet for modified conditions compared to 529.5 feet for existing conditions. This analysis was performed without consideration of wave action. The additional hazard due to wave action effects should be considered in planning future development.

A summary of peak elevation-frequency relationships for Lewisville Lake is shown in Table 2, "Summary of Stillwater Elevations."

TABLE 2 - SUMMARY OF STILLWATER ELEVATIONS

<u>FLOODING SOURCE AND LOCATION</u>	<u>ELEVATION (feet)</u>			
	<u>10-YEAR</u>	<u>50-YEAR</u>	<u>100-YEAR</u>	<u>500-YEAR</u>
LEWISVILLE LAKE				
At the dam	529.5	535.0	537.0	541.0

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

Cross sections for the backwater analyses were field surveyed. Cross sections were located at close intervals above or below bridges and culverts in order to compute the significant backwater effects of these structures.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the Flood Boundary and Floodway Map (Exhibit 2).

Water-surface elevations of floods of the selected recurrence intervals were computed using the COE HEC-2 step-backwater computer program (Reference 7). Flood profiles were drawn showing computed water-surface elevations for floods of the selected recurrence intervals. Starting water-surface elevations for the streams studied by detailed methods were determined by the slope/area method.

Roughness factors (Manning's "n") used in the hydraulic computations were chosen by engineering judgment and based on field observations of the streams and flood plain areas. The channel "n" and overbank "n" values for the streams studied by detailed methods are shown in the following tabulation:

<u>Stream</u>	<u>Channel "n"</u>	<u>Overbank "n"</u>
Bryant Branch	0.055-0.065	0.075-0.085
Griffiths Creek	0.065	0.075
Lynchburg Creek	0.070	0.075-0.090
Stream PEC-1	0.055-0.060	0.060-0.070
Swisher Creek	0.040-0.065	0.055-0.085
Veal Springs Branch	0.065	0.085

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD). Elevation reference marks used in this study are shown on the maps.

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages State and local governments to adopt sound flood plain management programs. Therefore, each Flood Insurance Study produces maps designed to assist communities in developing flood plain management measures.

4.1 Flood Boundaries

To provide a national standard without regional discrimination, the 1 percent annual chance (100-year) flood has been adopted by FEMA as the base flood for flood plain management purposes. The 0.2 percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For the flooding sources studied in detail, the

100- and 500-year flood plain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps (Reference 9).

For the streams studied by approximate methods, the boundary of the 100-year flood was delineated using topographic maps (Reference 9).

The 100- and 500-year flood plain boundaries are shown on the Flood Boundary and Floodway Map (Exhibit 2). In cases where the 100- and 500-year flood plain boundaries are close together, only the 100-year flood plain boundary has been shown. Small areas within the flood plain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

4.2 Floodways

Encroachment on flood plains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of flood plain management involves balancing the economic gain from flood plain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, a floodway is used as a tool to assist local communities in this aspect of flood plain management. Under this concept, the area of the 100-year flood plain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent flood plain areas, that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights. Minimum federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed on the basis of equal conveyance reduction from each side of the flood plain. The results of these computations are tabulated at selected cross sections for each stream segment for which a floodway is computed (Table 3).

As shown on the Flood Boundary and Floodway Map (Exhibit 2), the floodway boundaries were computed at cross sections. Between cross sections, the boundaries were interpolated. In cases where the floodway and 100-year flood plain boundaries are either close together or collinear, only the floodway boundary has been shown.

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FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY	INCREASE
Bryant Branch								
A	3,170 ¹	*	*	*	538.5	538.5	539.5	1.0
B	5,290 ¹	250	532	2.7	548.4	548.4	549.3	0.9
C	6,700 ¹	250	764	1.8	573.4	573.4	573.4	0.0
D	7,930 ¹	230	3,183	0.4	573.4	573.4	573.4	0.0
Griffiths Creek								
A	2,110 ²	110	368	3.3	548.1	548.1	549.1	1.0
B	2,350 ²	230	1,852	0.8	556.6	556.6	556.6	0.0
C	3,670 ²	80	384	3.9	558.8	558.8	559.7	0.9
Lynchburg Creek								
A	17,350 ³	125	522	5.4	545.1	545.1	545.7	0.6
B	19,000 ³	125	499	4.7	553.0	553.0	553.6	0.6
C	20,620 ³	125	642	3.7	559.8	559.8	560.3	0.5
D	22,700 ³	150	591	4.0	567.7	567.7	568.2	0.5
E	24,130 ³	200	683	3.4	574.8	574.8	575.7	0.9
Swisher Creek								
A	590 ⁴	150	690	2.5	560.5	560.5	561.5	1.0
B	1,140 ⁴	100	658	2.6	566.1	566.1	567.1	1.0
C	2,420 ⁴	260	1,444	1.2	575.2	575.2	576.1	0.9
D	3,290 ⁴	170	489	3.5	577.6	577.6	578.5	0.9

¹Feet above corporate limits

²Feet above confluence with Veal Springs Branch

³Feet above confluence with Elm Fork of Trinity River

*Floodway within government property fee
and/or flowage easement limits

⁴Feet from corporate limits

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWN OF CORINTH, TX
(DENTON CO.)

FLOODWAY DATA

**Bryant Branch-Griffiths Creek-
Lynchburg Creek-Swisher Creek**

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY	INCREASE
Veal Springs Branch								
A	6,330	*	*	*	542.4	542.4	542.5	0.1
B	6,980	*	*	*	556.8	556.8	556.9	0.1
C	7,150	99	647	1.2	562.7	562.7	563.7	1.0

¹Feet above confluence with Hickory Creek

²Floodway within government property fee and/or flowage easement limits

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

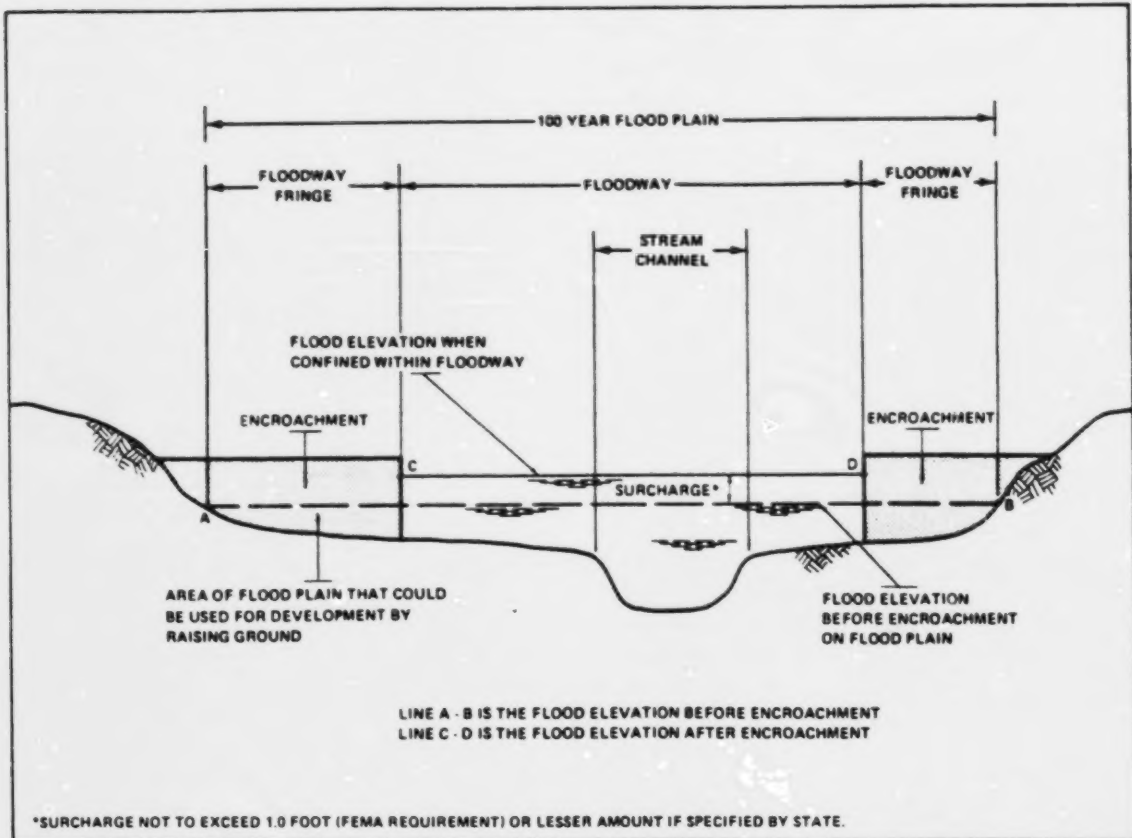
TOWN OF CORINTH. TX

(DENTON CO.)

FLOODWAY DATA

VEAL SPRINGS BRANCH

The area between the floodway and 100-year flood plain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the flood plain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood by more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to flood plain development are shown in Figure 2.



FLOODWAY SCHEMATIC

Figure 2

No floodway was delineated for Stream PEC-1 since the stream lies entirely outside the corporate limits.

5.0 INSURANCE APPLICATION

To establish actuarial insurance rates, data from the engineering study must be transformed into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors, and flood insurance zone designations for each flooding source studied in detail in the Town of Corinth.

5.1 Reach Determinations

Reaches are defined as sections of flood plain that have relatively the same flood hazard, based on the average weighted difference in water-surface elevations between the 10- and 100-year floods. This difference may not have a variation greater than that indicated in the following tabulation for more than 20 percent of the reach:

<u>Average Difference Between 10- and 100-Year Floods</u>	<u>Variation</u>
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot
7.1 to 12 feet	2.0 feet
More than 12 feet	3.0 feet

The locations of the reaches determined for the riverine flooding sources of the Town of Corinth are shown on the Flood Profiles (Exhibit 1) and summarized in Table 4.

In lacustrine areas, reaches are limited to the distance for which the 100-year flood elevation does not vary more than 1.0 foot. Using these criteria, one reach was required for the lacustrine flooding source of the Town of Corinth. The location of this reach is shown on the Flood Insurance Rate Map and summarized in Table 4.

5.2 Flood Hazard Factors

The Flood Hazard Factor (FHF) is used to establish relationships between depth and frequency of flooding in any reach. This relationship is then used with depth-damage relationships for various classes of structures to establish actuarial insurance rate tables.

The FHF for a reach is the average weighted difference between the 10- and 100-year flood water-surface elevations rounded to the nearest one-half foot, multiplied by 10, and shown as a three-digit code. For example, if the difference between water-surface elevations of the 10- and 100-year floods is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference between the 10- and 100-year flood water-surface elevations is greater than 10.0 feet, it is rounded to the nearest whole foot.

5.3 Flood Insurance Zones

Flood insurance zones and zone numbers are assigned based on the type of flood hazard and the FHF, respectively. A unique zone number is

FLOODING SOURCE	PANEL ¹	ELEVATION DIFFERENCE ² BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ³ ELEVATION (NGVD)
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Bryant Branch Reach 1	01,03	-0.8	-0.3	+0.7	010	A2	Varies
Griffiths Creek Reach 1	03	-0.6	-0.1	+0.4	005	A1	Varies
Lynchburg Creek Reach 1	03,04	-1.1	-0.3	+0.7	010	A2	Varies
Stream PEC-1 Reach 1	01	-4.5	-0.4	+0.4	045	A9	Varies
Swisher Creek Reach 1	04	-1.7	-0.4	+0.7	015	A3	Varies
Reach 2	04	-0.8	-0.2	+0.3	010	A2	Varies

¹Flood Insurance Rate Map Panel²Weighted Average³Rounded to the nearest foot - see map

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWN OF CORINTH, TX
(DENTON CO.)

FLOOD INSURANCE ZONE DATA

Bryant Branch-Griffiths Creek-Lynchburg Creek-
Stream PEC-1-Swisher Creek

FLOODING SOURCE	PANEL ¹	ELEVATION DIFFERENCE ² BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ³ ELEVATION (NGVD)
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Veal Springs Branch Reach 1	03	-0.8	-0.2	+0.5	010	A2	Varies
Lewisville Lake (Flooding Affecting Community) Reach 1	03	-7.5	-2.0	+4.0	075	A15	537

¹Flood Insurance Rate Map Panel

²Weighted Average

³Rounded to the nearest foot - see map

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWN OF CORINTH, TX

(DENTON CO.)

FLOOD INSURANCE ZONE DATA

Veal Springs Branch-Lewisville Lake

associated with each possible FHF, and varies from 1 for a FHF of 005 to a maximum of 30 for a FHF of 200 or greater.

Zone A: Special Flood Hazard Areas inundated by the 100-year flood, determined by approximate methods; no base flood elevations shown or FHFs determined.

Zones A1, A2, A3, A9, and A15: Special Flood Hazard Areas inundated by the 100-year flood; with base flood elevations shown, and zones subdivided according to FHFs.

Zone B: Areas between the Special Flood Hazard Areas and the limits of the 500-year flood; areas that are protected from the 100- or 500-year floods by dike, levee, or other water control structure; areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot; and areas subject to 100-year flooding from sources with drainage areas less than 1 square mile. Zone B is not subdivided.

Zone C: Areas of minimal flooding; not subdivided.

Flood elevation differences, FHFs, flood insurance zones, and base flood elevations for the flooding sources studied in detail in the community are shown in Table 4.

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for the Town of Corinth is, for insurance purposes, the principal result of the Flood Insurance Study. This map contains the official delineation of flood insurance zones and base flood elevations. Base flood elevation lines show the locations of the expected whole-foot water-surface elevation of the base (100-year) flood. The base flood elevations and zone numbers are used by insurance agents, in conjunction with structure elevations and characteristics, to assign actuarial insurance rates to structures and contents insured under the National Flood Insurance Program.

6.0 OTHER STUDIES

Flood Insurance Studies for the unincorporated areas of Denton County and the Cities of Denton, Lake Dallas, and Shady Shores are currently being prepared (References 8, 10, 11, and 12). The results of those studies will be in exact agreement with the results of this study.

Due to the detailed analyses, this Flood Insurance Study supersedes the previous Flood Insurance Study for Corinth (Reference 13).

7.0 LOCATION OF DATA

Information concerning the pertinent data used in preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, Federal Emergency Management Agency, Regional Director, Region VI, Federal Center, Denton, Texas 76201.

8.0 BIBLIOGRAPHY AND REFERENCES

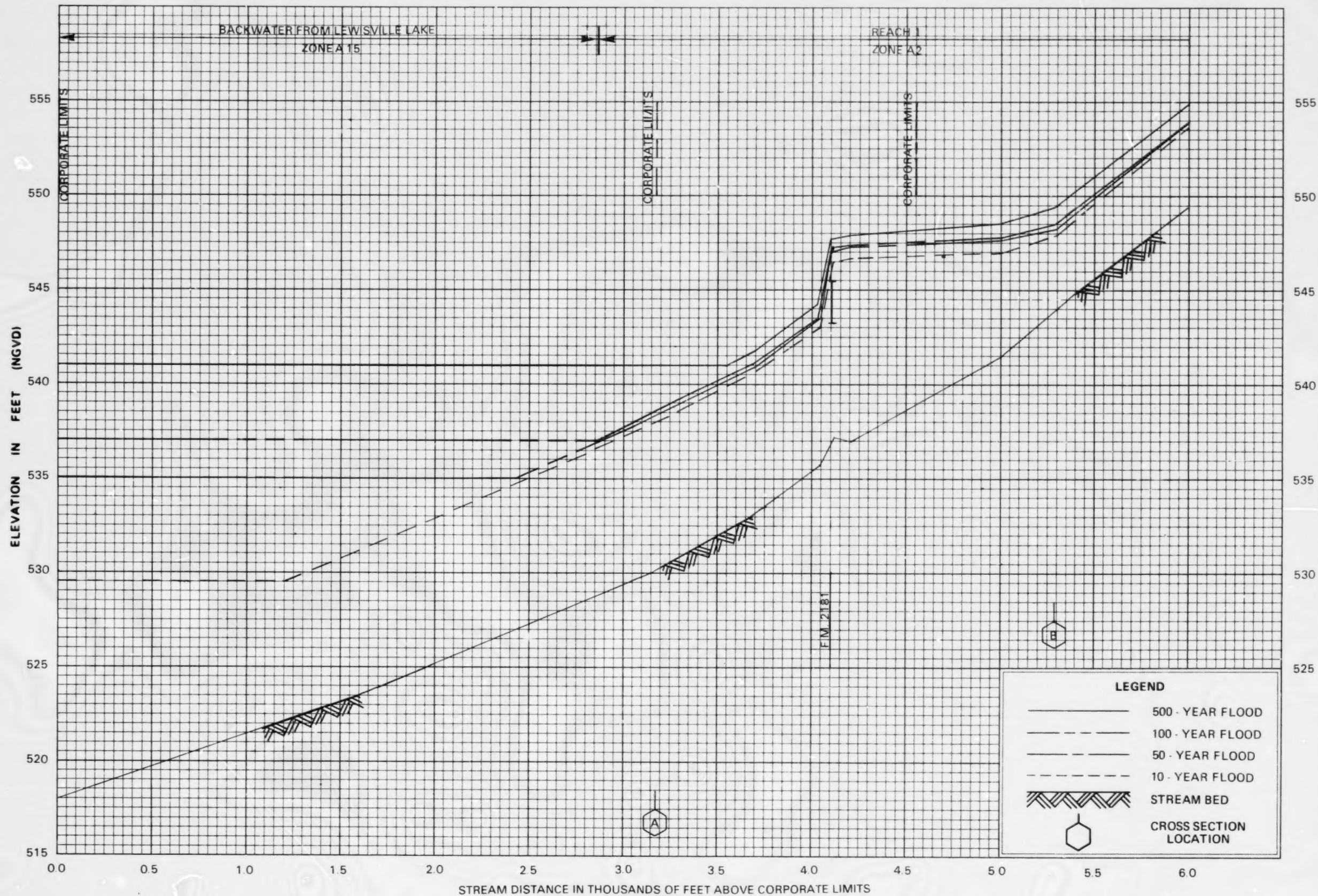
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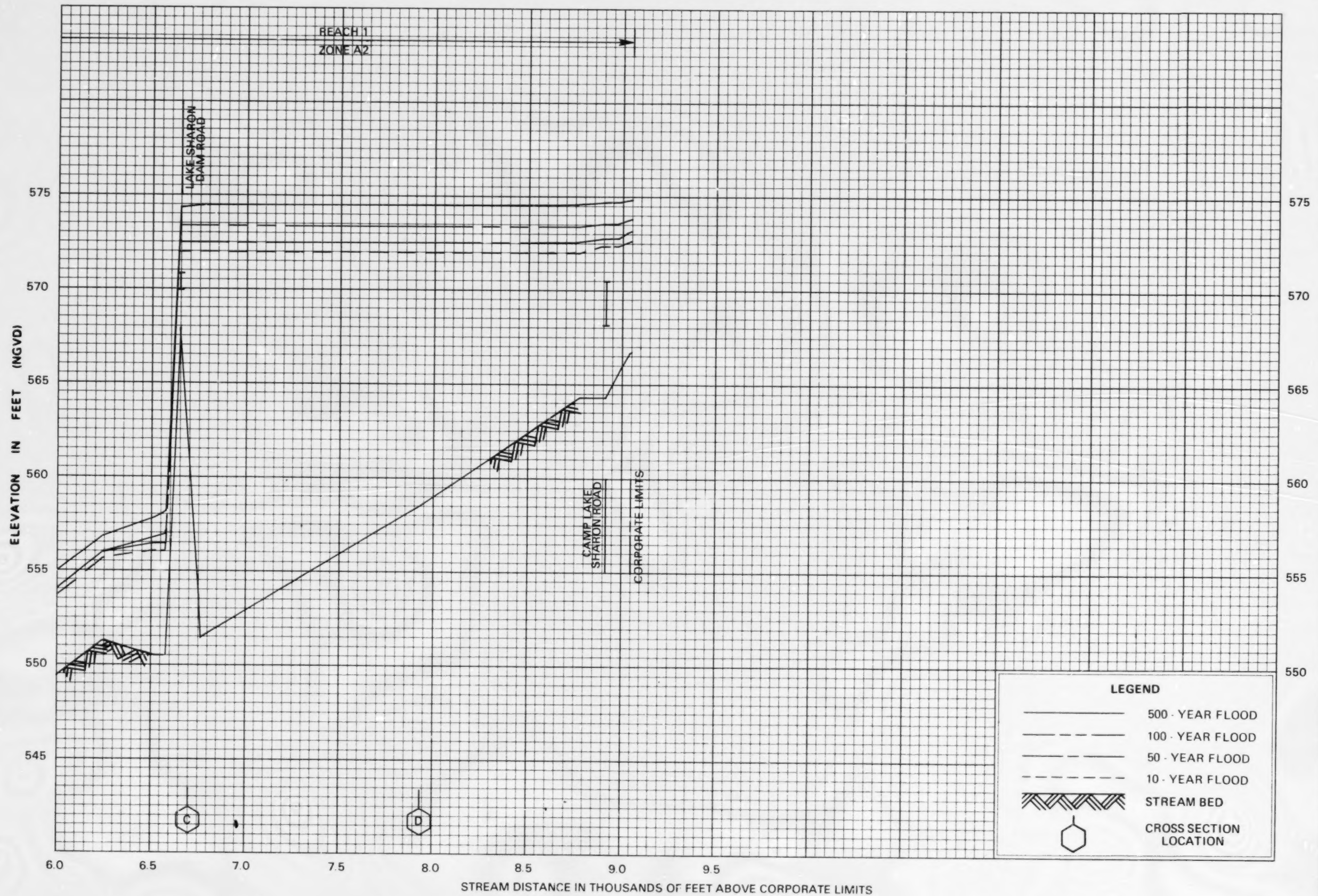
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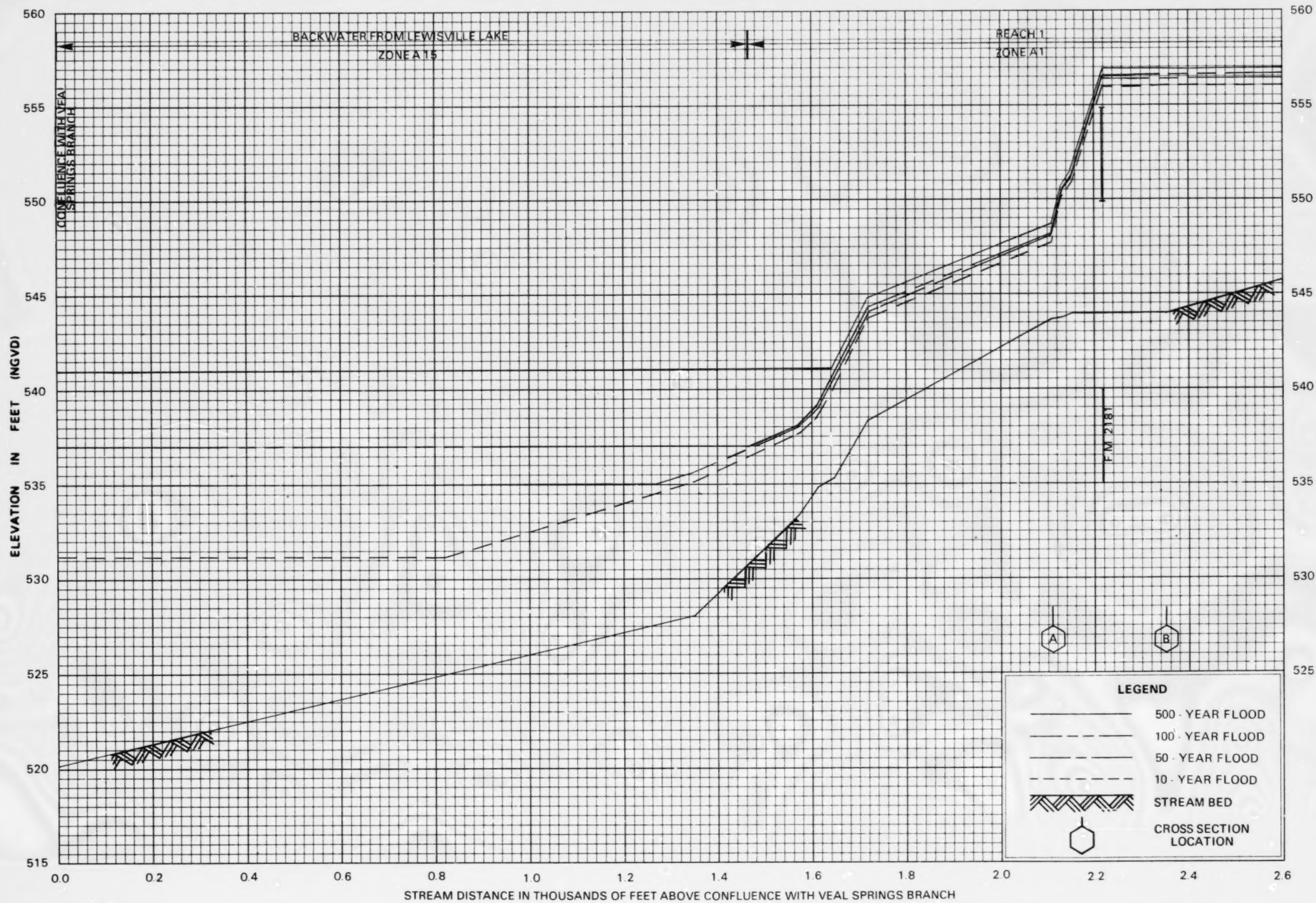
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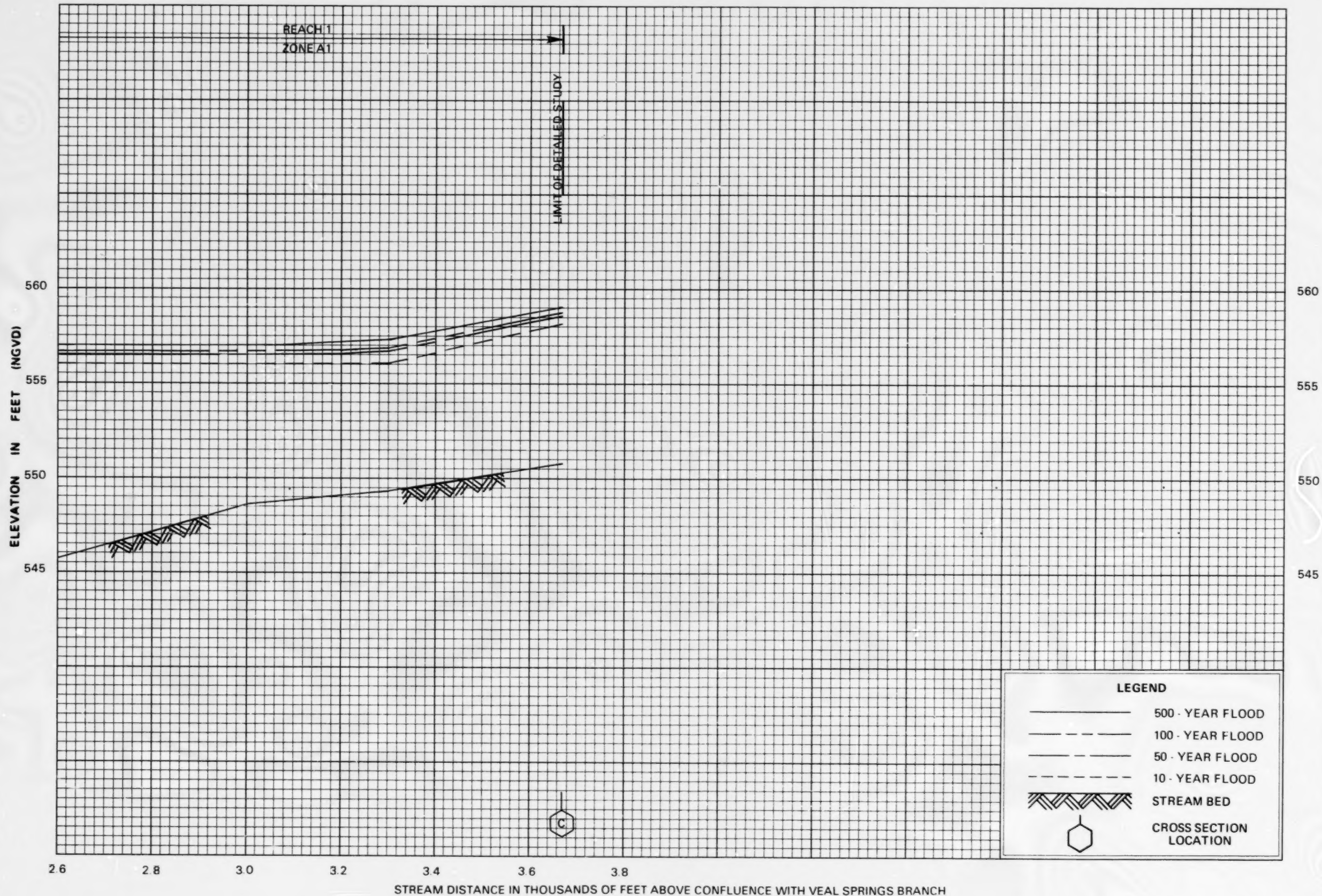
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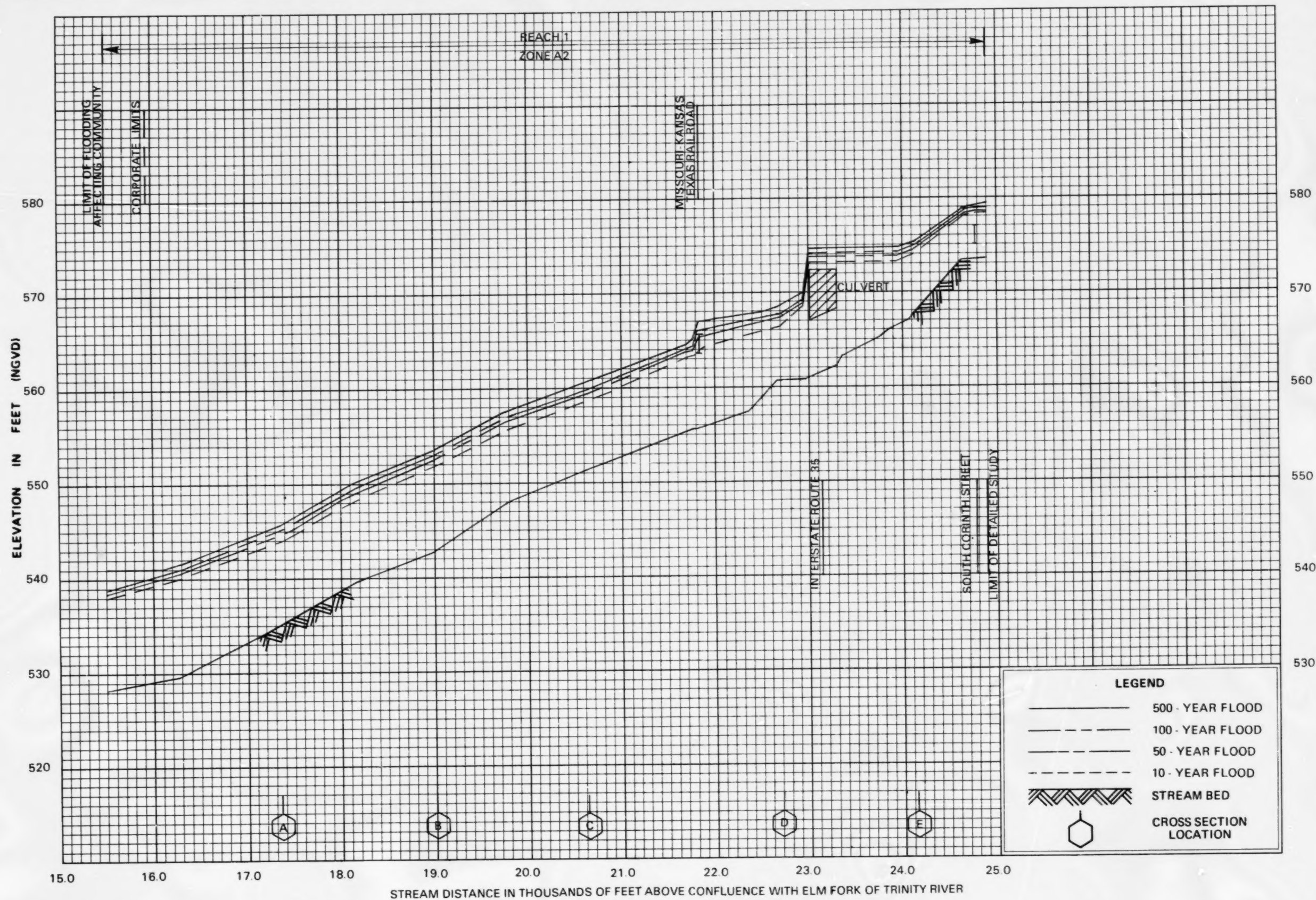
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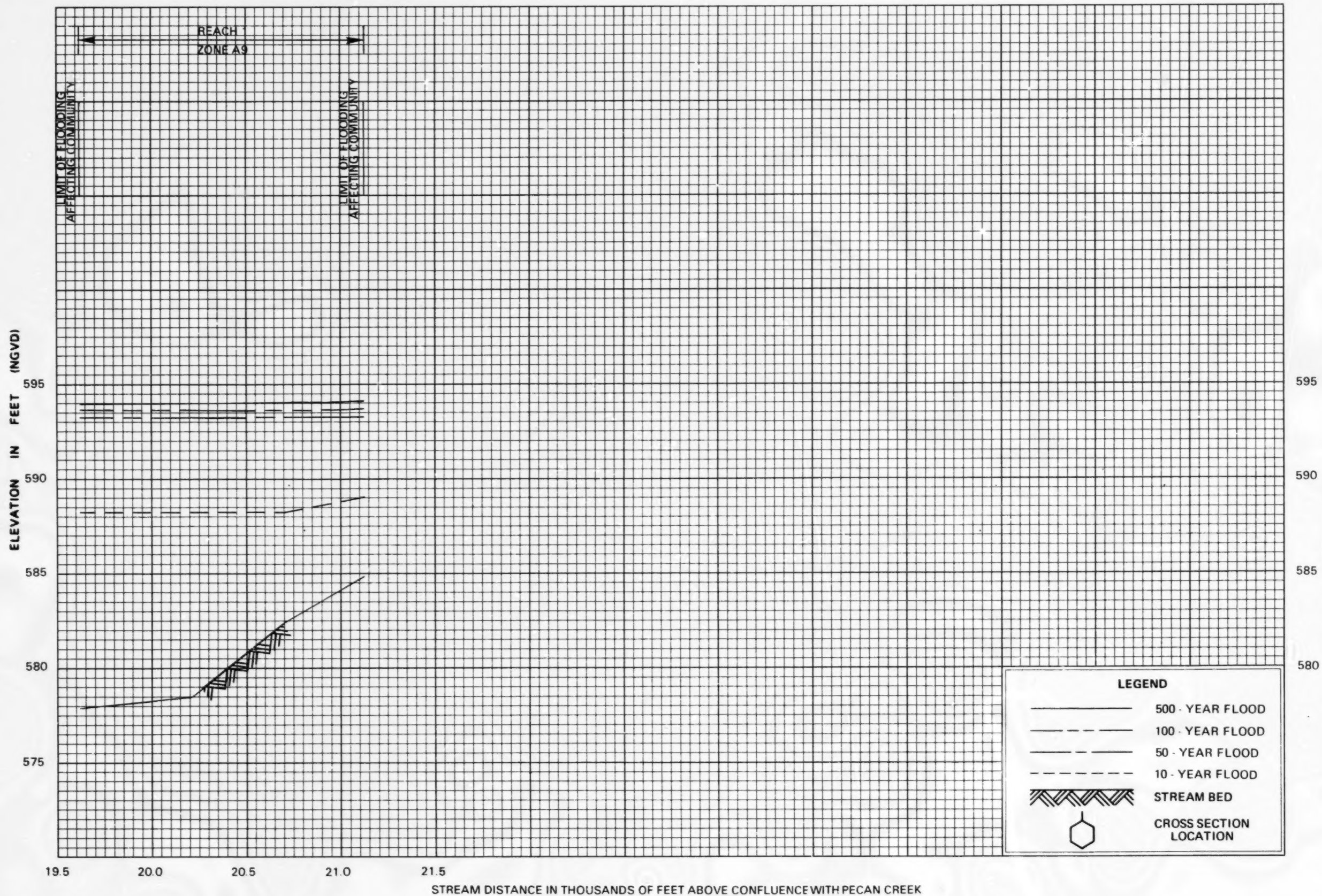
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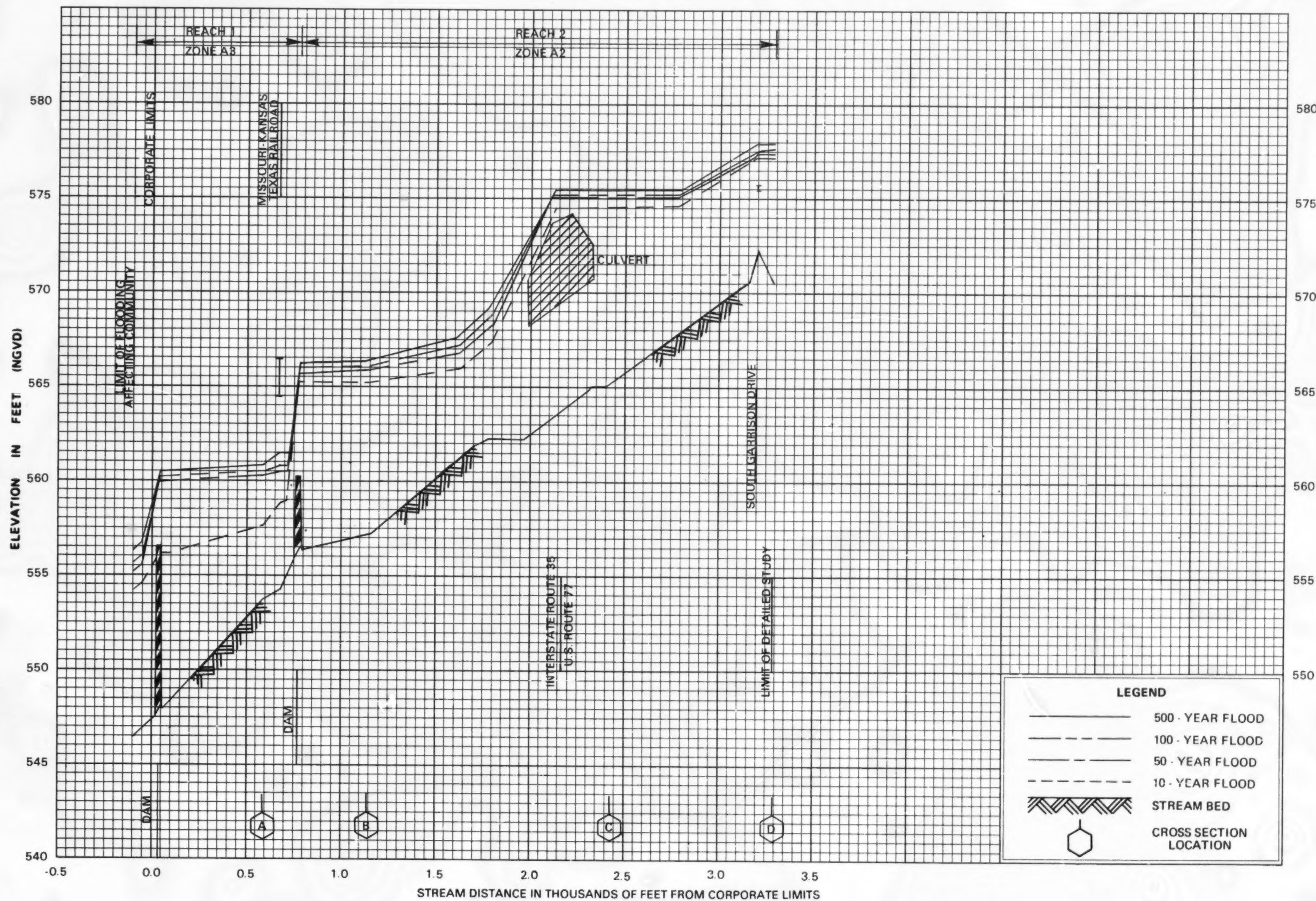
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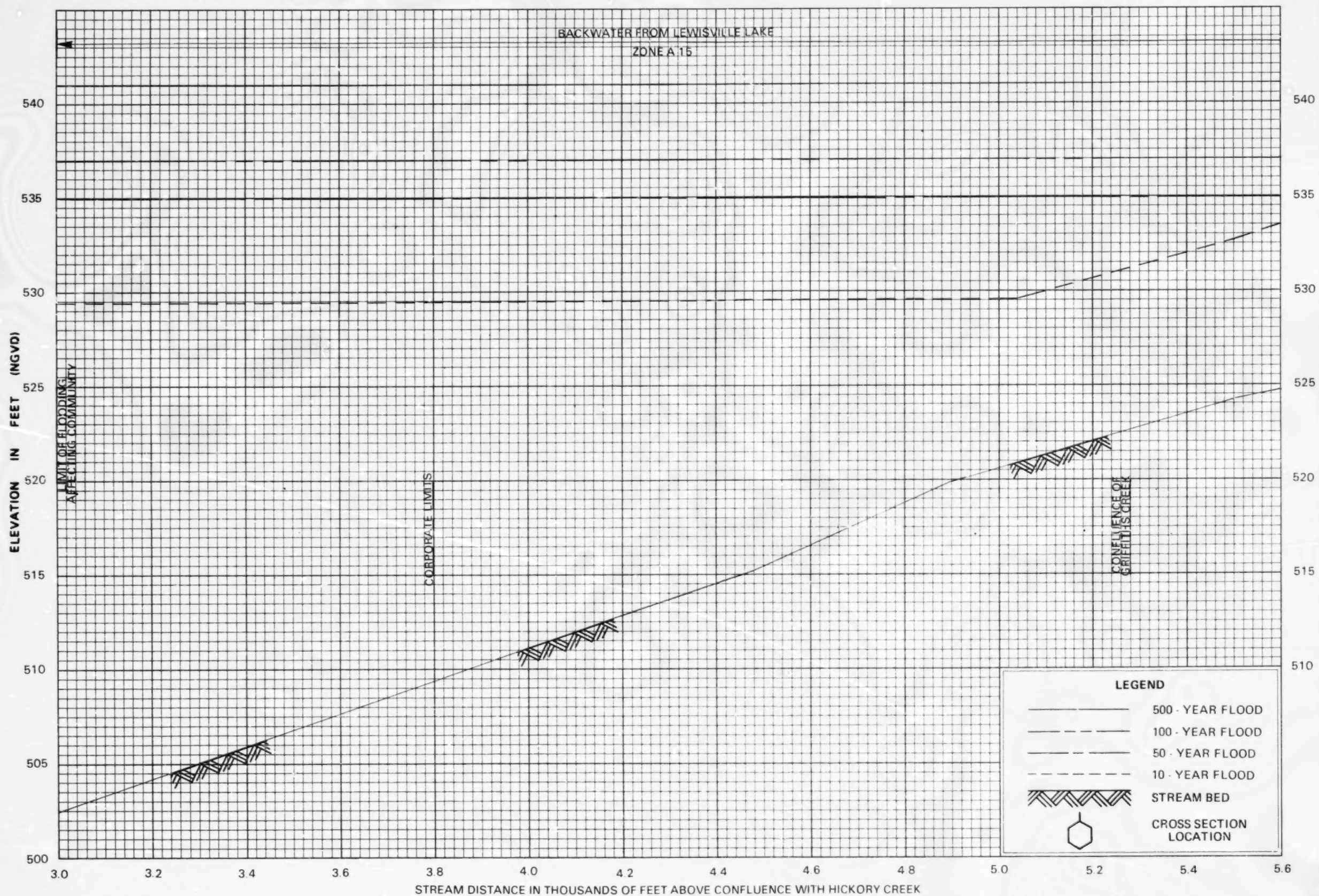


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(DENTON CO.)

FLOOD PROFILES
SWISHER CREEK

07P

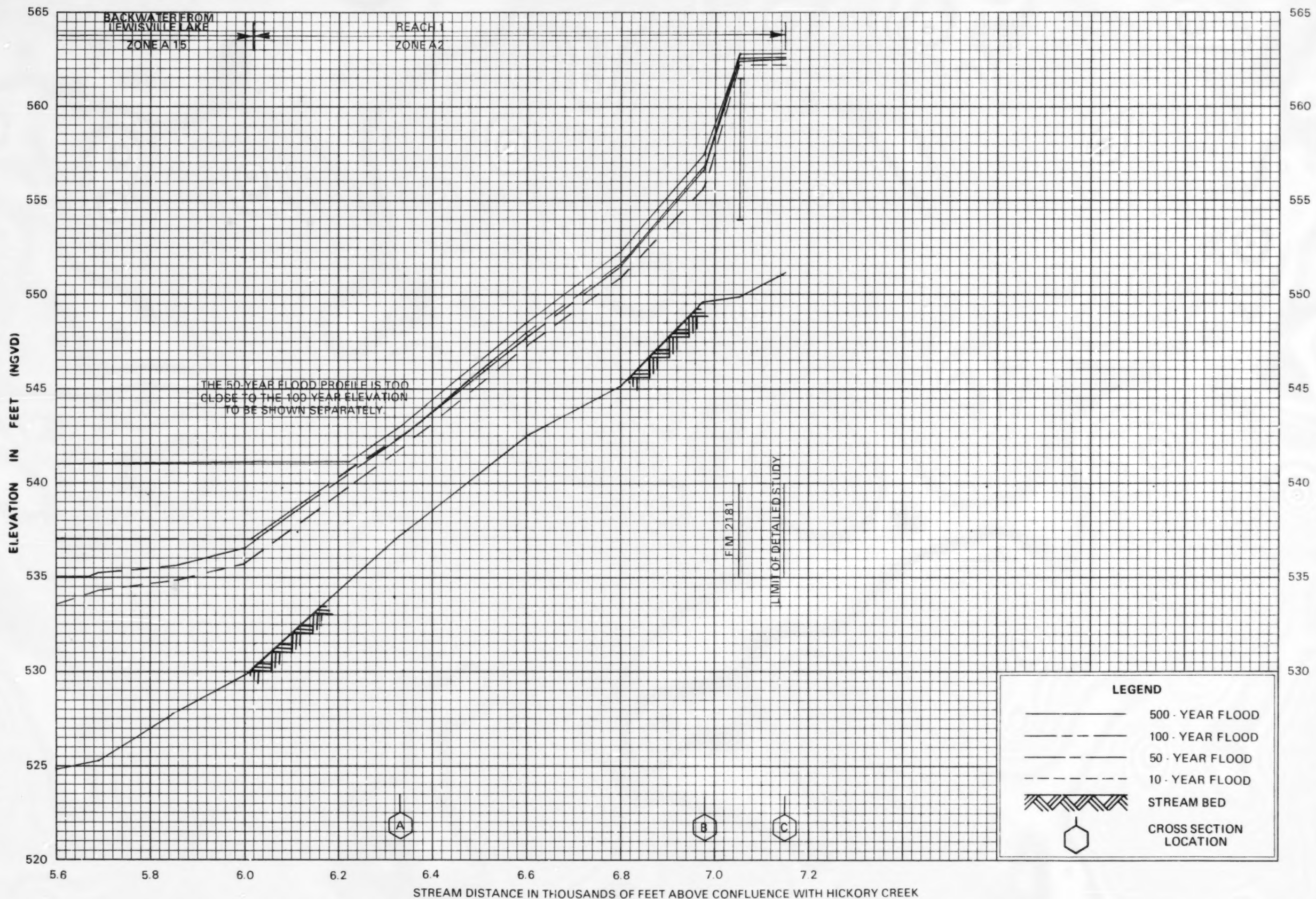
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VEAL SPRINGS BRANCH

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